Claims

1. Method for the manufacture of piezoelectrical multilayer actors, wherein thin coats of a piezoceramic material, called green leaves, are applied to the at least one internal electrode, are thus stacked one on the other in a block, that the internal electrodes are brought alternately to opposite faces of the actor where they are connected together by an external electrode, the actor green body being sintered and subject to an abrasive shaping and then the ground metallization for the external electrode is applied, characterized in that the areas to be insulated are coated by thick-layer methods with a paste consisting of an inorganic, low-sintering material or material mixture and an organic binder system, and then are subjected to a firing process wherein the layer thickness after sintering is between 1 and 40 μm, preferably between 2 and 20 μm or between 4 and 15 μm.

2. Method according to claim 1, characterized in that the coating is performed after the sintering and shaping and the coating is fired on at temperatures between 400 and 1200°C, or 600 and 1000°C, with special preference between 650 and 850°C.

3. Method according to claim 1 or 2, characterized in that the firing on of the insulating layer takes place together with the firing on of the external electrode and forms a continuous layer.

4. Method according to claim 1 or 2, characterized in that the application of the insulating layer takes place after the polarization of the actor and, by drying at 20 - 260°C, preferably at 80 - 120°C, a covering of all electrodes of one polarity is formed, but no covering of the electrodes of the other polarity and thus a continuous coating is not formed.

5. Method according to any one of claims 1 to 4, characterized in that the low-sintering material is PZT and/or is identical with the actor material.

6. Method according to any one of claims 1 to 4, characterized in that the thick layer paste consists of a glass and an organic binder system.

7. Method according to any one of claims 1 to 6, characterized in that the thick layer paste is applied to the green actor body and is sintered together therewith.

8. Method according to any one of the foregoing claims, characterized in that the thick layer is applied by silk-screen printing.

9. Method according to any of the foregoing claims, characterized in that the thick layer is applied by rubber-stamping or rolling.

10. Method according to any of the foregoing claims, characterized in that the thick layer is applied by plasma spraying.

11. Actor manufactured by a method according to claims 1 to 10.

12. Actor according to claim 11, characterized in that the actor serves to control an injection valve.